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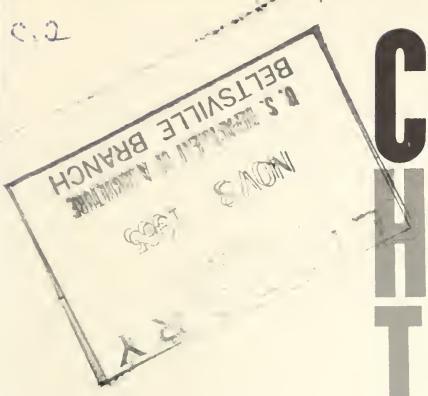


CATTLE LICE: HOW TO CONTROL THEM

U.S. Department of Agriculture
Leaflet No. 456

CATTLE LICE: HOW TO CONTROL THEM

Four species of bloodsucking lice[1] and a biting louse[2] attack cattle. The bloodsucking lice feed by piercing the animal's skin and drawing blood. Biting lice feed on particles of hair, scabs, and excretions from the skin.

- Heavily infested animals may be weakened by blood losses to the point where they become more susceptible to disease.
- Lice keep beef cattle from making maximum weight gains. Heavy infestations reduce milk production of dairy cattle by 10 percent or more.

These lice occur in most of the areas of the United States where cattle are raised, and are present the year round.

Infestations of lice are usually light in the summer and early fall but increase rapidly during the winter and spring. It is therefore especially important to inspect cattle for lice and treat them in the fall to delay and minimize the build-up of infestations during the colder months. Inspect your cattle periodically throughout the winter and spring and re-treat them as necessary to keep the lice under control.

Louse infestations usually decline greatly during the late spring and summer months, but some animals may continue to harbor damaging numbers of lice. Such animals should be treated as necessary to control the lice.

CHOICE OF INSECTICIDE

Insecticides that are effective in controlling cattle lice are rotenone, pyrethrum, Ciodrin, coumaphos (Co-ral), DDT, dioxathion (Delnav), lindane, malathion, methoxy-

[1] *Linognathus vituli, Haematopinus eurysternus, Solenopotes capillatus, and Haematopinus quadripertusus.*

[2] *Bovicola bovis.*

chlor, ronnel (Korlan), carbaryl (Sevin), toxaphene, and Ruelene.[3]

Your choice depends on whether you are going to treat beef cattle or dairy cattle, and on whether you wish to apply the insecticide as a spray, dip, or dust, or with rubbing devices.

Recommendations for beef cattle differ from those for dairy cattle because some insecticides may be secreted in milk.

For beef cattle

- Spray with any of the recommended insecticides except DDT.
- Dip with coumaphos, dioxathion, lindane, ronnel, toxaphene, or rotenone.
- Dust with lindane, malathion, methoxychlor, toxaphene, or rotenone.
- With rubbing devices, use Ciodrin, methoxychlor, malathion, ronnel, dioxathion, toxaphene, or DDT.

For dairy cattle

- Spray with Ciodrin, rotenone, or pyrethrum.
- Dust with rotenone.
- With rubbing devices, use Ciodrin.

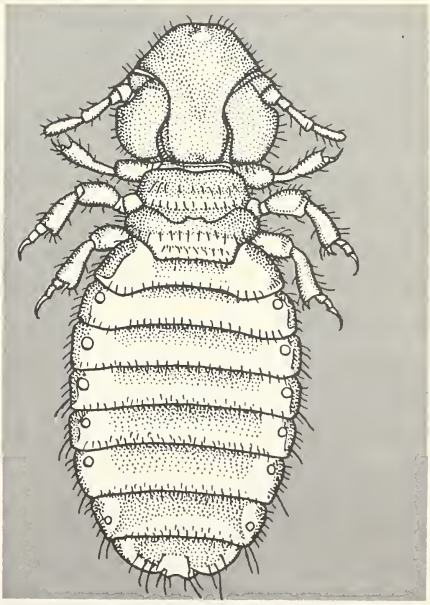
[3] Mention of a proprietary product in this publication does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture, and does not imply its approval by the Department to the exclusion of other products that may also be suitable.

SPRAYS

Preparation

Most sprays are prepared by mixing an emulsifiable liquid or a wettable powder with water. All the recommended insecticides except ro-

Bloodsucking louse.



Biting louse.

tenone, Ciodrin, coumaphos, Ruelene, and dioxathion may be purchased in both these forms. Rotenone is available as derris or cube powder, which can be used as a dust or mixed with water for spraying. Coumaphos and carbaryl are available only as 25-percent wettable powders. Ruelene, Ciodrin, and dioxathion are available only as emulsifiable concentrates.

The accompanying table lists the formulations from which sprays may be prepared, the recommended strength of the finished spray, and the amount of each product to mix

Guide for Mixing Sprays

Insecticide, formulation,[1] and strength	Percentage of insecticide desired in spray	Amount of formulation to mix with water	
		100 gallons	5 gallons
ROTENONE:			
Derris or cube powder containing 5 percent of rotenone.	0.006	1 pound	5 tablespoons.
PYRETHRUM: EC, 1 percent [2]	.025	2½ gallons	16 ounces.
METHOXYCHLOR:			
EC, 25 percent	.5	2 gallons	13 ounces.
WP, 50 percent	.5	8 pounds	6½ ounces.
LINDANE:			
EC, 20 percent	.03	20 ounces	2 tablespoons.
	.05	1 quart	3 tablespoons.
WP, 25 percent	.03	1 pound	3 tablespoons.
	.05	1⅔ pounds	5 tablespoons.
TOXAPHENE:			
EC, 60 percent	.5	5½ pints	4½ ounces.
WP, 40 percent	.5	10 pounds	8 ounces.
MALATHION:			
EC, 57 percent	.5	1 gallon	6 ounces.
WP, 25 percent	.5	16 pounds	13 ounces.
COUMAPHOS:			
WP, 25 percent	.125	4 pounds	3¼ ounces.
RONNEL:			
EC, 24 percent	.125	2 quarts	3¼ ounces.
WP, 25 percent	.125	4 pounds	3¼ ounces.
CARBARYL: WP, 50 percent	.5	8 pounds	6½ ounces.
RUELENE: EC, 25 percent	.5	2 gallons	13 ounces.
CIODRIN: EC, 47 percent	.25	2 quarts	3⅓ ounces.
	.5	8⅓ pints	7 ounces.
DIOXATHION:			
EC, 47 percent	.15	2⅔ pints	2 ounces.
EC, 30 percent	.15	2 quarts	2½ ounces.

[1] EC=emulsifiable concentrate; WP=wettable powder.

[2] Refers to pyrethrins content. Pyrethrum formulations usually contain a synergist to improve effectiveness.

with water to make a spray of that strength. (Products on the market contain various percentages of insecticide. If you buy a product in which the percentage of insecticide differs from that stated in the first column of the table, mix proportionately more or less of it with water.)

Lindane sprays applied to animals over 1 year old may contain 0.03 to 0.05 percent of insecticide; those applied to younger animals must not exceed 0.03 percent.

Apply all other sprays only at the recommended concentration of insecticide. Stronger sprays may injure animals.

Some of these preparations recommended for controlling lice also can be used in the summer for controlling flies.

However, regular back treatments as applied for fly control may not destroy all lice.

When making the last fly-control treatments in the fall, spray the animals all over rather than on the back only. This will retard the fall buildup of lice and reduce the number of treatments during the winter.

Application

Apply enough spray to thoroughly wet the animals to the skin. The size of the animal and the length of its hair will determine the amount of spray needed. Complete coverage may require 2 to 4 gallons for mature animals in winter coat. Two to 4 quarts usually is sufficient to treat short-haired cattle.

Follow instructions on the label of the product you use; the amount of spray required by these instructions may vary from our recommendations.

For treating a few animals, use a cylindrical air-pressure or knapsack sprayer that holds 2 to 3 gallons. Shake such sprayers occasionally to assure a properly mixed spray.

For large herds, power sprayers are more economical and do the job faster than hand equipment. Operate the sprayer at a pressure of 100 to 200 pounds per square inch.

Make two applications of rotenone or pyrethrum 14 to 18 days apart. One thorough treatment with other insecticides usually provides satisfactory control. However, a second treatment after 2 to 3 weeks may sometimes be necessary to eradicate infestations.

DIPS

Use rotenone, ronnel, dioxathion, coumaphos, and toxaphene as dips at the same strength as sprays and prepare them from the same ingredients. Use lindane only at a 0.03-percent concentration in dips. (See chart on page 4 for amount of each insecticide to use in preparing a spray or dip.)

Two dippings 14 to 18 days apart are necessary with rotenone. Usually, one dipping with other insecticides gives good control. If necessary, repeat the dipping in 2 weeks.

Use only formulations approved for use on livestock. Formulations that do not remain evenly dispersed in dipping vats may injure animals (if the insecticide rises to the top of

the vat) or give ineffective control (if the insecticide settles to the bottom).

DUSTS

Dusts are less effective than sprays or dips because they do not readily penetrate long, dense hair; but they are useful in cold weather when wetting animals may be injurious.

Use any of the following dusts on *beef cattle:* Lindane and rotenone, 1 percent; malathion, 4 or 5 percent; toxaphene, 5 percent; and methoxychlor, 10 percent. These products are generally available in the strengths indicated. If not, you can prepare them by diluting wettable-powder concentrates with inert carriers. Talc, kaolin, and pyrophyllite are examples of suitable carriers.

Use only 1-percent rotenone dust on *dairy cattle.*

Apply about 6 ounces of dust to each mature animal, with any available duster. Rub the animals by hand, if necessary, to disperse the powder through thick hair.

Several treatments 14 to 18 days apart usually are needed to eradicate lice.

Control of the Tail Louse

The tail louse, *Haematopinus quadripertusus*, which is prevalent in the Southern States, is much more difficult to control than other species of cattle lice. To control it, spray two or three times. Use these repeated treatments only on the infested tail.

SELF-TREATMENT DEVICES

Several types of self-treatment devices are available commercially. Complete instructions on their use are given on labels or in accompanying booklets.

You can make a satisfactory self-treatment device at little cost. It may consist of a post or a cable wrapped with burlap bags. The bags are treated with insecticide, and cattle treat themselves when they rub against them.

This method of reducing infestations of cattle lice is not as effective as sprays or dips but has advantages of low cost and ease of treatment.

To make a cable-type rubbing device, hang a chain or several strands of heavy wire at a height of 4 feet between two posts that are 15 to 20 feet apart. Let it sag to about 18 inches above the ground midway between the posts. Or, run the cable from the top of a 4-foot post to an anchor post at ground level 15 to 20 feet away.

Place rubbing devices near a salt or water trough, or in an area where cattle loaf or rest. Install them early in the fall before lice become numerous. If you wait until heavy infestations have developed, they may not provide satisfactory control.

Only 1-percent Ciodrin may be used in backrubbers on dairy cattle. For beef cattle, treat the burlap wrapping with an oil or kerosene solution containing 5 percent of toxaphene, DDT, or methoxychlor, 1 percent of ronnel or Ciodrin, 1.5 percent of dioxathion, or 2 percent of malathion. One gallon will treat

A low-cost rubbing device will reduce infestations of lice on beef cattle.

15 to 20 feet of wrapping. Re-treat the wrapping every 3 or 4 weeks.

To prepare a solution of proper strength, mix an emulsifiable concentrate of one of the insecticides with fuel oil or kerosene in the proportion indicated below.

EMULSIFIABLE LIQUID:	*Amount to mix with 1 gallon oil*
Toxaphene, 60 percent	9 ounces.
DDT or methoxychlor, 25 percent	1½ pints.
Malathion, 57 percent	5 ounces.
Ciodrin, 47 percent	2¼ ounces.
Dioxathion, 30 percent	6 ounces.
Ronnel, 24 percent	5 ounces.

PRECAUTIONS

Insecticides are poisonous to man and animals. Handle them with care and avoid unnecessary exposure to them. Use them only when needed. Follow the directions and heed all precautions on the container label.

- Wash off any concentrated materials spilled on your skin.
- Store insecticides out of reach of children, pets, and livestock.
- To protect fish and wildlife, do not contaminate streams, lakes, or ponds with the insecticides.
- Do not use a spray or dip if an oily or gummy layer forms after mixing.
- Do not use any insecticides in higher concentrations than those recommended.
- Do not contaminate feed, feed containers, or watering troughs with insecticides.
- Do not spray or dip recently weaned calves in bad weather. The exposure may kill them.
- Do not use oil sprays for controlling cattle lice.

- Do not use lindane, dioxathion, Ruelene, toxaphene, methoxychlor, DDT, coumaphos, ronnel, or malathion on dairy cattle.

- Thoroughly mix insecticides before beginning treatment or resuming it after interruption. Otherwise some animals may receive too much for safety or too little for adequate louse control.

- Use of certain of the insecticides must be discontinued a specified number of days before slaughter. The following shows the number of days that must elapse between the last use of insecticide and slaughter:

	Days
Lindane, *spray* or *dust*	30
Lindane, *dip*	60
Ruelene	28
Toxaphene	28
DDT	30
Ronnel	56
Carbaryl	7

- Do not apply Ciodrin sprays oftener than once a week; do not reapply ronnel or dioxathion within 2 weeks.

- Do not dip calves less than 3 months old in lindane or dioxathion. Do not use malathion on calves less than 1 month old.

- Do not treat animals less than 3 months old with coumaphos; spray animals 3 to 6 months old lightly. Do not use coumaphos with synergized pyrethrins, allethrin, or synergist. Do not spray animals with coumaphos for 10 days before or after shipping or weaning or after exposure to disease. Do not apply in conjunction with oral drenches or other medications, such as phenothiazine.

- Do not use lindane on emaciated or lactating animals.

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